

seconds, which is the time required for transverse conduction of the spinal cord, which has been determined by Prof. Rosenthal.—*DuBois' Archiv*, 1883, Heft 2 and 3.

THE INNERVATION OF THE CARDIAC END OF THE STOMACH.—Dr. Openchowski has made a series of experiments upon this point. His results are as follow :

1. The cardiac end of the stomach is innervated through the pneumogastric nerves, and the right goes direct, whilst the left, by means of a commissural branch of Auerbach's plexus, goes to the stomach.

2. The pneumogastriks send extremely thin fibres to nests of little ganglia of a sympathetic character which are placed about the cardiac end of the stomach.

3. Upon the large branches of the vagi, in the cardiac region, are large nests of ganglia containing many cells.

The separated cardia of the frog can for an hour keep up rhythmic automatic contraction. In living rabbits the cardia is quiet when not irritated.

After death it makes a few rhythmic contractions. By separate induction-breaks to the vagi, the cardia does not contract. With intervals of $\frac{1}{8}$ " in succeeding induction-breaks there ensues weak contraction after a summation-time of $\frac{1}{2}$ –2".

Frequent irritations, from $\frac{1}{12}$ – $\frac{1}{30}$ " interval, of considerable intensity, contract the cardia; by smaller intensity there is a dilatation of the cardia. He also found a nerve whose function it was to dilate the cardia, and also constrictor nerves of the cardia. In the vagus exciting and inhibiting fibres run to the cardia.—*Centralblatt*, No. 31, 1883.

THE ACTION OF IRRITATION OF SENSORY NERVES UPON THE VASO-MOTOR APPARATUS IN MAN.—Dr. Istamanow has made a number of operations upon this subject.

Miss Marie Manassein found that tickling caused a strong reaction in the vaso-motor system. Istamanow studied the changes by means of Mosso's plethismograph, and the temperature variations by means of Meissner-Meyerstein's galvanometer. Tickling caused a diminution of volume in the extremities. After stopping the irritation the volume returned to normal. The surface-temperature also sank, and after the removal of irritation, returned to normal. By blowing on the skin similar results ensued. These results confirm those of Miss Marie Manassein.

Painful irritations caused an increase of volume and an elevation of surface-temperature. When cold was applied to the neck, there was a diminution of the volume of the extremities; the temperature also fell. The application of warm water, 70–90 C., caused an enlargement of the extremities; the temperature was also elevated. All agreeable irritants to the mucous membrane of the nose caused an increase, whilst disagreeable ones caused decrease, in volume.

Irritation of nerves of taste caused a diminution of the extremities and a cooling of the part. Irritation of the auditory nerves caused a diminution of temperature and of volume. The change from darkness to light, or the reverse, caused a diminution of volume of the extremities.—*St. Petersburger medicinische Wochenschrift*, 1883, No. 26.

THE RELATION OF THE DEPRESSOR NERVE TO THE VAGUS.—Messrs. Zybalsky and Wartanow have used dogs and cats in their experiments upon this subject. In dogs it can be separated from the vagus and inferior laryngeal nerves. If the central end of the depressor is irritated without section of the vagus, then there is slowing of the pulse, depression of arterial tension. After section of both vagi, then sometimes with weak currents there is a depression of blood-pressure, but usually an elevation of it. Irritation of its peripheral end caused slowing of the pulse. In cats the same results ensued.

They found that in cases where irritation of the depressor caused considerable diminution of the arterial tension, that irritation of the vagus caused an elevation; in other cases where the depressor caused elevation of arterial pressure, the vagus caused depression, so that there would seem to be a compensatory relation between the nerves. Hence in the vagus there are pressure-increasing and pressure-decreasing fibres.—*St. Petersburger medicinische Wochenschrift*, 1883, No. 25. ISAAC OTT, M.D.

b.—GENERAL PATHOLOGY OF THE NERVOUS SYSTEM.

ON CHEMICAL DISEASES OF THE BRAIN AND SPINAL CORD, AS CONDITIONED BY THE CHEMICAL CONSTITUTION OF THESE ORGANS.—Dr. J. L. W. Thudicum, London, publishes, in the *British Med. Jour.*, Sept. 15th, a paper under the above title, from which we quote certain passages.

"I submit," he says, "that locomotor ataxia is, in the first instance, an affection of white nerve matter, mainly in the spinal marrow. It consists essentially of a gradual destruction of colorless fibres, which is accompanied by the formation of microscopic bodies, having the shape of wheat-starch, and a chemical reaction with iodine, which is not that of starch, but of lignin; for starch becomes immediately blue with iodine, while these bodies require to be changed by prolonged contact with dilute sulphuric acid before they assume a blue color with iodine. These bodies were by their discoverer termed amyloid bodies, and the disease of which they were diagnostic was termed amyloid degeneration.

"Unfortunately the morbid anatomists have included under the term 'amyloid degeneration' a number of chronic parenchymatous lesions, particularly of the liver and spleen, which have nothing in